

L 62503-65

ACCESSION NR: AT5019732

and the exchange coefficient exert an appreciable influence on the atmospheric diffusion of impurities. When the frequency of certain conditions is relatively great they should be taken into account in the planning of installations which discharge harmful substances into the atmosphere. When such anomalous conditions occur, the installations should reduce the output of harmful substances or shut down entirely. A special part of the paper analyzes the diffusion of an impurity in an area of hilly relief and gives the results of numerical computations for sloping relief forms. As an example, the authors cite the case of a point source with  $H \geq 50$  m situated at various sites relative to a hill 50 m high. It is shown, for example, that the maximum surface concentration when the source is on the top of the hill is not less than the maximum surface concentration in the case of diffusion over a flat surface. The article concludes with calculations of the initial rise and heating of the impurity and a numerical solution of this problem is given. This paper and earlier studies served as the basis for drawing up the "Interim Method for Computations of Atmospheric Scattering of Wastes (Sols and Sulfur Compounds) from the Stacks of Electric Power Stations". Details concerning this technical document are given in the same collection of articles. Orig. art. has: 54 formulas and 3 figures.

Card 2/3

L 62503-65

ACCESSION NR: AT5019732

2

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad  
(Main Geophysical Observatory)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 019

OTHER: 002

Card

3/3

L 2669-66 EWT(1)/EWT(m)/FCC/EWA(h) GS/GW

ACCESSION NR: AT5023953

UR/0000/65/000/000/0380/0391

AUTHOR: Berlyand, M. Ye.; Genikhovich, Ye. L.; Dem'yanovich, V. K.;  
Onikul, R. I., 41.55 41.55 41.55

TITLE: Effect of vertical distribution of temperature and wind velocity on the atmospheric diffusion of radioactive pollutants 46

SOURCE: Nauchnaya konferentsiya po yadarnoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 380-391 151/15

TOPIC TAGS: nuclear meteorology, air pollution, atmospheric surface boundary layer, atmospheric boundary layer, micrometeorology, radioactive fallout, radioactive pollution, lapse rate, atmospheric turbulence, wind velocity

ABSTRACT: Until recently, Soviet research dealing with problems of atmospheric pollution from continuously active point sources has been based on models of conditions for wind velocity and the coefficient of turbulent exchange prevailing in the surface boundary layer of the atmosphere. The present paper discusses the inapplicability of this  
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ACCESSION NR: AT5023953

model to many existing and planned point sources and to problems of radioactive fallout; it presents a quantitative analysis of the effects of lapse rates, wind velocity, turbulent exchange, and other factors and a mathematical model which reflects them as they actually occur in the thicker boundary layer. Orig. art. has: 8 formulas and 5 figures. [ER]

ASSOCIATION: none

SUBMITTED: 28Apr65

ENCL: 00

SUB CODE: ES, NP

NO REF SOV: 009

OTHER: 000

ATD PRESS: 4101

5 (3)

AUTHORS:

Terent'yev, A. P., Potapov, V. M.,  
Dem'yanovich, V. M.

SOV/79-29-3-41/61

TITLE:

New Aromatic Homologues of Taurine (Novyye aromaticheskiye  
gomologi taurina)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 949-952 (USSR)

ABSTRACT:

The synthesis of the taurine homologues (Ref 1) which the authors had already earlier worked out by the reduction-amination according to Leuckart of the  $\beta$ -keto sulfo acids (Ref 2) which are now easily accessible, was applied also in the work under review for the synthesis of new aromatic taurine homologues of the substituted  $\beta$ -phenyl taurines. The initial ketones of the aliphatic-aromatic series obtained according to Friedel-Crafts (Ref 3) (by condensation of the corresponding benzene compounds with acetyl chloride) were transformed by dioxane sulfotrioxide into the  $\beta$ -keto sulfo acids. Table 1 shows the constants of their ammonium and S-benzyl thio-uronium salts. The ammonium salts of  $\beta$ -ketone sulfo acids were introduced into the reduction-amination reaction. As reagents were used formamide (method A), a mixture of 85 % formic acid and ammonium carbonate (method B), as well as a mixture of urea

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## New Aromatic Homologues of Taurine

SOV/79-29-3-41/61

and anhydrous formic acid (method C). On the synthesis of  $\beta$ -phenyl taurine from the ammonium salt of  $\alpha$ -acetophenone sulfo acid, the method B gave the highest yields. To avoid a hydrolysis of the sulfo group at the beginning of the reaction, the water was expelled in the Wurtz flask at  $185^{\circ}$  as long as the medium was still acid by excess of formic acid. After cooling, ammonium salt of  $\beta$ -keto sulfo acid was added to the mixture obtained, consisting of formamide and ammonium formate, and the whole was heated during 6 hours up to  $180-185^{\circ}$ . The reaction began at  $120-125^{\circ}$ . The hydrogen sulfide development showed that the sulfo group participated in the reaction. A control proved that the sulfo group of the forming amino sulfo acid is not affected under the reaction conditions. For some derivatives of  $\beta$ -phenyl taurine, quantitative yields were obtained on the reaction of the corresponding  $\beta$ -ketone sulfo acids with the mixture of urea in anhydrous formic acid (method C). The constants of the taurines synthesized may be seen in table 2. There are 2 tables and 3 references, 2 of which are Soviet.

Card 2/3

New Aromatic Homologues of Taurine

SOV/79-29-3-41/61

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: February 9, 1958

Card 3/3

5.3610

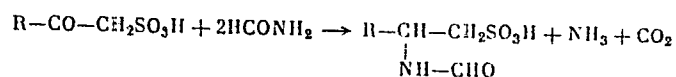
78308  
SOV/79-30-3-62/69

AUTHORS: Potapov, V. M., Terent'yev, A. P., Dem'yanovich, V. M.

TITLE: Synthesis of Aliphatic Taurines by the Leuckart Reaction

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 1043-1047 (USSR)

ABSTRACT: A series of aliphatic  $\beta$ -ketosulfonic acids (see Table 1) was prepared by the action of dioxane-sulfur trioxide on aliphatic ketones and converted into taurine homologs (see Table 2) by reductive amination according to Leuckart:



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Synthesis of Aliphatic Taurines by the Leukart  
Reaction

78308

SOV/79-30-3-62/69

Table 1. Key: Aliphatic  $\beta$ -ketosulfonic acids.  
(a) Ketosulfonic acid (b) Yield (%).

a	b
$\text{CH}_3\text{COCH}_2\text{SO}_3\text{H}$	84.0
$\text{CH}_3\text{COCH}(\text{CH}_3)\text{SO}_3\text{H}$	72.5
$\text{CH}_3\text{COCH}(\text{iso-C}_3\text{H}_7)\text{SO}_3\text{H}$	87.2
$\text{CH}_3\text{COCH}(\text{C}_6\text{H}_{11})\text{SO}_3\text{H}$	74.5
$\text{C}_2\text{H}_5\text{COCH}(\text{CH}_3)\text{SO}_3\text{H}$	67.4
$\text{C}_3\text{H}_7\text{COCH}(\text{C}_2\text{H}_5)\text{SO}_3\text{H}$	80.0
$\text{iso-C}_3\text{H}_7\text{COCH}(\text{CH}_3)_2\text{SO}_3\text{H}$	58.6

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Synthesis of Aliphatic Taurines by the Leukart  
Reaction

78308

SOV/79-30-3-62/69

Table 2. Key: Aliphatic homologs of N-formyltaurine.  
(a) Taurine; (b) Yield (%), (c) S-benzylthiuronium salt;  
(d) Mp; (e) Formula (f) N content (%); (g) Found;  
(h) Calculated

a	b	c		f		h
		d	e	g	f	
$\text{CH}_3\text{CHCH}_2\text{SO}_3\text{H}$   NHCHO	—	194—195°	$\text{C}_{12}\text{H}_{16}\text{O}_4\text{N}_3\text{S}_2$	12.62, 12.83		12.63
$\text{CH}_3\text{CHCH}(\text{CH}_3)\text{SO}_3\text{H}$   NHCHO	38.3	152—152.5	$\text{C}_{13}\text{H}_{21}\text{O}_4\text{N}_3\text{S}_2$	11.81, 11.93		12.09
$\text{CH}_3\text{CHCH}(\text{iso-C}_3\text{H}_7)\text{SO}_3\text{H}$   NHCHO	24.0	216—217	$\text{C}_{15}\text{H}_{25}\text{O}_4\text{N}_3\text{S}_2$	11.18, 11.35		11.19
$\text{CH}_3\text{CHCH}(\text{C}_5\text{H}_{11})\text{SO}_3\text{H}$   NHCHO	20.0	179.5—180	$\text{C}_{17}\text{H}_{29}\text{O}_4\text{N}_3\text{S}_2$	10.38, 10.53		10.41
$\text{C}_2\text{H}_5\text{CHCH}(\text{CH}_3)\text{SO}_3\text{H}$   NHCHO	16.0	178.5—179	$\text{C}_{14}\text{H}_{23}\text{O}_4\text{N}_3\text{S}_2$	11.74, 11.65		11.62
$\text{C}_3\text{H}_7\text{CHCH}(\text{C}_2\text{H}_5)\text{SO}_3\text{H}$   NHCHO	—	118—119	$\text{C}_{16}\text{H}_{27}\text{O}_4\text{N}_3\text{S}_2$	10.48, 10.70		10.78
$\text{iso-C}_3\text{H}_7\text{CHCH}(\text{CH}_3)_2\text{SO}_3\text{H}$   NHCHO	42	182—183	$\text{C}_{16}\text{H}_{27}\text{O}_4\text{N}_3\text{S}_2$	11.64, 11.50		10.78

Card 3/4

Synthesis of Aliphatic Taurines by the Leukart  
Réaction

78308  
SOV/79-30-3-62/69

The process of reductive amination was studied by the analytical method; i.e., by determination of the  $\text{CO}_2$ ,  $\text{SO}_4^-$ , and  $\text{H}_2\text{S}$  formed. It was shown that on sulfonation of ketones of type  $\text{CH}_3\text{-CO-CH}_2\text{-R}$  the sulfo group enters at the methylene group. There are 3 tables; and 6 references, 1 U.S., 1 U.K., 1 French, 3 Soviet. The 2 U.S. and U.K. references are: S. Zuffanti, J. Am. Chem. Soc., 62, 1044 (1940); J. Catch, D. Elliot, D. Hey, E. Jones, J. Chem. Soc., 272 (1948).

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: January 5, 1959

Card 4/4

POTAPOV, V.M.; DEM'YANOVICH, V.M.; TERENT'YEV, A.P.

Stereochemical studies. Part 11. Amides of optically active  
 $\alpha$ -phenylethylamine with substituted benzoic acids. Zhur.ob.khim.  
31 no.9:3046-3050 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Ethylamine) (Amides) (Stereochemistry)

POTAPOV, V.M.; DEM'YANOVICH, V.M.; LAZUTINA, L.I.; TEREENT'YEV, A.P.

Stereochemical studies. Part 13: Rotatory dispersion of the derivatives of  $\alpha$ - $\alpha$ -tolylethylamine and 2-aminobutane. Zhur.-ob.khim. 32 no.4:1187-1191 Ap '62. (MIRA 15:4)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Amines) (Molecular rotation)

POTAPOV, V.M.; DEM'YANOVICH, V.M.

Spectropolarimetric study of certain amides and xanthates in connection with L.A.Chugov's works. Vest.Mosk. un. Ser.2:24-27 J1-Ag '63. (MIRA 16:9)

1. Kafedra organicheskey khimii Moskovskogo universiteta.  
(Amides) (Xanthic acids) (Spectropolarimetry)

POTAPOV, V.M.; DEM'YANOVICH, V.M.; TERENT'YEV, A.P.

Stereochemical studies. Part 15: Spectropolarimetric study of  
 $\alpha$ -benzylethylamine and its derivatives. Zhur.ob.khim. 33  
no.7:2372-2376 J1 '63. (MIRA 16:8)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Ethylamine--Optical properties) (Spectrometry) (Stereochemistry)

POTAPOV, V.M.; DEM'YANOVICH, V.M.; TERENT'YEV, A.P.

Spectropolarimetric analysis. Report No.4: Analysis of  
mixtures of ephedrine and pseudoephedrine. Zhur. anal. khim.  
19 no.2:254-257 '64. (MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

IGI-POV, N.M.; DEM'YANOVICH, V.M.; TERENT'YEV, I.M.

Stereochemical studies. Part 19: Effect of a solvent on the  
rotatory dispersion of amides. Zhur. ob. khim. 35 no.8:1340-  
1342 Ag '65. (MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet.

ПОТАPOV, V.M.; ЛЕВЯНОВИЧ, А.Н.; ТЕРЕНТЬЕВ, А.А.

Dispersion of the rotation of some sulfamides from optically active  $\alpha$ -phenylethylamine. Vest. Mosk. un. Ser. 2: Khim. 20 no.1:56-58 Ja-F '65. (BBA 18:3)

1. Kafedra organicheskoy khimii Moskovskogo Universiteta.

POTAPOV, V.M.; DEM'YANOVICH, V.M.

Stereochemical studies. Part 18: Determination of amine  
configuration by the rotatory dispersion method. Zhur. ob.  
khim. 35 no.9:1538-1545 S '65. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet.

L 27250-65 EWT(d) IJP(s)

ACCESSION NR: AP4049473

S/0020/64/159/002/0250/0253

AUTHOR: Dem'yanovich, Yu. K.

TITLE: The method of nets for some problems of mathematical physics

SOURCE: AN SSSR. Doklady, v. 159, no. 2, 1964, 250-253

TOPIC TAGS: partial differential equation, elliptic system, differential operator, net, operator, Dirichlet problem

ABSTRACT: The purpose of the present paper was to study the Dirichlet-von Neuman problem for a bounded region  $\mathcal{A}$  of  $n$ -dimensional euclidean space; in other words to construct a system of net equations, using mean-value coefficients, for a differential operator on  $\mathcal{A}$ . Several criteria are developed for the possibility of solving the problem. The latter half of the paper is devoted to a study of the speed of convergence of the method in case the solution of the problem yields functions which possess a generalized second derivative and are square-summable. "The author thanks his Professor S.G. Mikhailin for scientific guidance." Orig. art. has: 8 formulas.

Card 1/2

27250-65

ACCESSION NR: AP4049473

ASSOCIATION: Leningradskiy gosudarstvennyy Universitet im. A.A. Zhdanova (Leningrad  
State University)

SUBMITTED: 21May64

ENCL: 00

SUB CODE: MA

NO REF SOV: 009

OTHER: 009

Card 2/2

1067-66 ENT(d) IJP(c)

ACCESSION NR: AP5023354

UR/0020/65/164/001/0020/0023

AUTHOR: Dem'yanovich, Yu. K. 44.55

TITLE: Stability of the method of grids for elliptic problems

SOURCE: AN SSSR. Doklady, v. 164, no. 1, 1965, 20-23

TOPIC TAGS: differential equation, elliptic equation, stability

ABSTRACT: The author proves three theorems concerning stability of the method of grids for elliptic systems with respect to small variations of the grid operator. He treats the non-self adjoint problem

$$A_0 u + \lambda T u = f, \quad u \in W_2^1(\Omega), \quad (1)$$

where  $a_{ik}$  are measurable bounded functions in the region  $\Omega$ , and  $a_{ik}$  and  $a$  satisfy conditions given by the author in a previous paper (DAN, 159, No. 2, 1964), where  $A_0$  is extended to being self-adjoint in the sense of Friedrichs. The method used is that of Kantorovich. He shows the method of grids to be stable under certain conditions and obtains certain related estimates. "The possibility of investigating stability with respect to variation of the grid operator in a subspace was brought

Card 1/2

L 1067-66

ACCESSION NR: AP5023354

to my attention by Professor S. G. Mikhlin, to whom I express my unbounded gratitude." Orig. art. has: 8 formulas. C

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova  
(Leningrad State University) 44, 55

SUBMITTED: 08Feb65 44, 55

ENCL: 00

SUB CODE: MA

NO REF SOV: 010

OTHER: 000

Card 2/2 DP

ACCESSION NR: AT3008985

S/2753/63/000/002/0121/0131

AUTHOR: Dem'yanovich, Yu. S.

TITLE: On the bending of a cylindrical shell by a concentrated force

SOURCE: Leningrad. Universitet. Matematiko-mekhanicheskiy fakul'tet. Issledovaniya po uprugosti i plastichnosti, no. 2, 1963, 121-131

TOPIC TAGS: shell, cylindrical shell, bending, load, force, concentrated force, normal force, concentrated load, normal load, finite stress

ABSTRACT: This theoretical paper provides a solution for the problem of the bending of a thin cylindrical shell of length  $l$  by a normal concentrated force. For a thin shell, as has been indicated by I. S. Tsurkov (AN SSSR, Izv., Otd. tekhn. nauk, no. 2, 1951) a practically sufficient accuracy is attained by using the roots of the characteristic equation corresponding to the Vlasov equation of shallow shells. In the present paper, this equation, written in complex form, is employed as a starting equation. The complex form of the equations simplifies the solution of the problem posed significantly. The formulas obtained differ from the well-known formulas by their simplicity, thanks to which they are suitable for practical calculations. The Vlasov equation is written in the form

$$\Delta \tilde{\psi} + i2b^3 \frac{\partial^2 \tilde{\psi}}{\partial z^2} = i2b^3 R q_n, \quad (3)$$

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ACCESSION NR: AT3008985

where  $\tilde{\psi}$  is a certain unknown function which is linked to  $\tilde{T}_1$ ,  $\tilde{T}_2$ ,  $\tilde{S}$  by  $\tilde{T}_1 = D_{31}\tilde{\psi} = \frac{\partial^2 \tilde{\psi}}{\partial \varphi^2}$ ,  $\tilde{T}_2 = D_{11}\tilde{\psi} = \frac{\partial^2 \tilde{\psi}}{\partial \xi^2}$ ,  $\tilde{S} = D_{32}\tilde{\psi} = -\frac{\partial^2 \tilde{\psi}}{\partial \xi \partial \varphi}$ , (4). The expression for  $\tilde{\psi}(\xi, \varphi)$  is then written in the form 
$$\tilde{\psi}(\xi, \varphi) = \sum_{k=-1}^4 \sum_{j=-1}^4 \tilde{C}_j e^{j\xi} \cos k\varphi + \frac{1}{2} \sum_{j=-1}^4 \tilde{C}_j e^{j\xi} \Big|_{k=0}, \quad (14)$$

A set of expressions for the forces, moments, and displacements is set forth. The series involved are tested for convergence, and it is found that the stresses  $T_1$  and  $T_2$  at the point of application of a concentrated force are finite, a result that is at variance with those obtained by antecedent authors in the literature. Formulas suitable for actual calculations are set forth. Orig. art. has: 27 numbered eqs.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: AP, MM

NO REF SOV: 004

OTHER: 000

Card 2/2

DEM'YANOVSKAYA, N.P., Cand Med Sci -- (diss) "On the State of  
the Liver in Patients with tubercular Polyceroses"  
Chernovtsy, 1958, 12pp (Chernovtsy State Med Inst),  
200 copies (KL, 41-58, 122)

*polycerositis."*

36 -

PROCESSES AND PROPERTIES																									
<p><b>DEMYANOVSKAYA, N. S.</b></p> <p><i>Ca</i></p> <p><b>Changes in histidine taking place in Bombyx mori L.</b></p> <p>N. S. Demyanovskaya. <i>Uchenye Zapiski Fakul'teta Estestvoznaniya, Moskov. Gosudarst. Pedagogichesk. Inst., Lab. Org. i Biol. Khim.</i> 1938, No. 3, 1-54; <i>Khim. Ref. erat. Zhur.</i> 2, No. 5, 50 (1939). A review of literature with references in regard to the biological functions of histidine and the enzyme histidase is of 1937.</p> <p><i>11/2</i></p> <p>W. E. Hill</p>																									
<p>ASAC-SEA METACATALOGUE LITERATURE CLASSIFICATION</p> <p>1938-1939</p>																									

[illegible]

*ca*

*11F*

**Oxidation of phosphogluconic acid in animal tissue.** A. P. Bukharin and N. S. Deminowskaya. *Compt. rend. Acad. Sci. U.S.S.R.* 34, 123 (1969). The course of aerobic oxidation of carbohydrates which consists of dehydrogenation of hexose monophosphate into phosphogluconic acid followed by oxidation and decarboxylation is well understood for the yeast cell. The purpose was to find out if the same aerobic breakdown of carbohydrates takes place in animal tissue. Metabolic studies employing tissue slices technique could not be used because phosphogluconic esters of hexoses are unable to penetrate intact cells. It was necessary, therefore, to use pulped heart, brain, liver, and kidney tissue as well as hemolyzed pigeon corpuscles. The pulps were dialyzed at 0° for 3 hrs. against 0.9% KCl to remove respiratory substrate material. This procedure was not entirely satisfactory as it tended to remove part of the enzyme system and coenzyme II had to be added to all samples. By a previous method (Bukharin, *U.S.S.R.* 3, 500 (1968)) hexose monophosphate and phosphogluconic acid were prepri. Coenzyme II was made from horse red blood corpuscles by Warburg's method. O consumption was measured in Warburg's app. In the main compartment of the expt. flask was placed 4 ml. of dialyzed tissue pulp corresponding to about 0.5 g. of tissue and 0.1 mg. of coenzyme II; the side arm contained 0.3 ml. of a 0.1 M soln. of the substrate; the control was physiol. saline. Into the center well of the vessel 0.2 ml. of 10% KOH was introduced and the contents of each vessel was brought up to a vol. of 1.8 ml. The results of the expts. showed that in all the tissues investigated, as well as in the red blood corpuscles, phosphogluconic acid considerably increased O consumption; this is interpreted as meaning that it can serve as a substrate for respiration. The effect of phosphogluconic acid was found to be of about the same order of magnitude as that produced by hexose monophosphate. The results should be regarded as equal in nature. However, it is clear that phosphogluconic acid, which is an oxidation product of hexose monophosphate, can serve as a substrate for subsequent oxidative transformations. It appears that the process of carbohydrate oxidation which occurs in animal tissue is similar to that found in the yeast cell. M. E. Whalley.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

DEMYANOVSKAYA, N. S.

USSR/Biology - Muscles

Jun 50

"Photosensitizing Action of Methylene Blue on Myosin," V. A. Engel'gardt,  
Com Mem, Acad Sci USSR, N. S. Demyanovskaya, T. V. Venkstern, Lab of Biochem,  
Physiol Inst imeni I. P. Pavlov, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 5, pp 923-926

Authors proved by experiments the muscle protein myosin will unite not only with muscle protein action, but also with itself, in polymerization process they call "homomerization." Method of proof involed use of methylene blue in myosin solution. When composite solution was exposed to light it developed great viscosity, finally becoming a gel. Noted effects of adenosinetriphosphoric acid on solution. Submitted 3 May 50

PA 163T3

DEMY 2NOV55013 MS.

USSR .

✓ The glucokinase of yeasts. A. P. Barkhain and N. B. Danyanovskaya. Doklady Akad. Nauk S.S.S.R. 79, 825-8 (1961). *Chem. Abstr.* 1962, 542-3; cf. C.A. 41, 4827c. The enzyme prepn. obtained from yeast by the method of Dickson (cf. C.A. 32, 9122i) contains an enzyme oxidizing phosphogluconic acid (I) and a 2nd enzyme which oxidizes gluconic acid (II) in the presence of coenzyme, yellow enzyme, and adenosinetriphosphoric acid (III). In the presence of II a consumption of O and a sepn. of CO<sub>2</sub> occur in the yeast maceration juice. The unphosphorylated II is oxidized only when phosphorylation is assured by the presence of III and a specific protein. III cannot be replaced by adenosine and adenylic acid. In the decornpn. of II in the maceration juice in the presence of III, the readily hydrolyzable P decreases, the major portion of it appearing as difficultly hydrolyzable P in I and a smaller amt. as inorg. P (action of adenosinetriphosphatase). The decornpn. of glucose proceeds in a similar manner but faster. For the further decornpn. of II prior phosphorylation is both possible and necessary. The hexokinase obtained from the yeast maceration juice shows no glucokinase activity. The optimum for hexokinase activity is pH 7.4; that for glucokinase is pH 6.0. Thus, a glucokinase occurs in brewer's yeast, which differs from hexokinase. A similar enzyme probably occurs in animal tissue, especially in the liver. M. G. M.

SISAKYAN, N.M.; BRONOVITSKAYA, Z.S.; DEMYANOVSKAYA, N.S.

Resistance of vitamin C in preserved dehydrated vegetables and potatoes.  
Biokhimiia, Moskva 17 no.6:701-703 Nov-Dec 1952. (CML 25:1)

1. Institute of Biochemistry imeni A. N. Bakh of the Academy of Sciences  
USSR, Moscow.

different sources. M. P. Znamenskaya, N. S. Ivanov, and A. N. Belovskii, *Dokl. Akad. Nauk SSSR*, 224: 1088 (1976). DNA isolated from *Adenovirus 10* (Adenovirus treated with  $K_2Fe(CN)_6$  or with 2%  $H_2Na$ , as oxidizing and reducing agents, resp., showed different properties. Some of the specimens were derived also from organisms treated with  $H_2O_2$  at pH 5-8.3. Specimens of *Adenovirus* subjected to oxidation failed to give DNA reaction either by Dische or Carotini methods, or in other cases showed only a very weak green color which was not detectable quantitatively. Action of a reducing agent on the organism either resulted in the appearance of a very weak DNA test or to its substantial increase over the control. DNA from the thyroid gland is not affected in this respect by oxidizing agents (Dische test), but similar oxidation of DNA prep. from wheat germ gave a 60-70% decrease in detectable DNA; the same occurred on oxidation of the bacterial mass from dysentery organisms. The oxidation appears to be irreversible and the nature of oxidation products is unknown. The strengthening of the DNA tests after reduction appears to speak for the presence of DNA precursors in the test objects.

G. M. Kozlovskii

— DEMYANOVSKAYA, N. S.

# U S S R .

Deoxyribonucleic acid of *Actinomyces globisporus* streptomycin in the process of its development. N. S. Demyanovskaya and A. N. Rebozarskii (A. N. Bakh Inst. Biochem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 688-92 (1954).—In certain stages and under certain conditions of development of *A. globisporus* streptomycin deoxyribonucleic acid (I) cannot be found in the mycelium by the usual procedure. In the absence in the mycelia of I and of thymine there is present an apparently new base, X, having a maximum absorption band in the ultraviolet spectral region of 283 mμ. With the reappearance of thymine this new base X disappears.

B. S. Levine

DENYANOVSKAYA, N. S.

Reducing capacity and catalase activity of *Actinomyces globisporus streptomycin*, during its growth as related to its antibiotic activity. N. S. Denyanovskaya and M. P. Znamenskaya (A. N. Bach Inst. Biochem., Acad. Sci. U.S.S.R., Moscow). *Mikrobiologiya* 25, 561-5 (1958).  
Mycelia have their highest reducing capacity to  $K_2Fe(CN)_6$  in the first growth stage (12-14 hrs.); there is a substantial decrease in the next stage (to 45 hrs.) and little change thereafter; these changes are all independent of high or low fermentation activity and rate of forming antibiotics, although there is a relation between reducing capacity and yield of antibiotics. Catalase activity is lowest, and sensitivity to inhibitors highest, when antibiotic yield is high (400 units) following the first growth stage; activity rises when antibiotic yield is low (212 units or less).

Julian E. Smit 1--

DEMYANOVSKAYA, N. S. Cand Biol Sci -- (diss) "Certain biochemical changes of the mycelium *Actinomyces globisporus streptomycini* Kras in the process of its development and in connection with ~~its~~ antibiotic activity." Mos, 1957. 19 pp with diagrams 20 cm. (Inst of Biochemistry im A. N. Bakh, Acad Sci USSR), 100 copies (KL, 24-57, 116)

USSR / Microbiology. Antibiosis and Symbiosis.  
Antibiotics.

F

Abs Jour : Ref. Zhur - Biol., No 21, 1958, No 95031

Author : Prokof'yeva - Bel'govskaya, A. A. ;  
Demyanovskaya, N. S.

Inst :  
Title : Cytological and Biochemical Changes of Actinomyces  
Globisporus Streptomycini Kras. by the Elosyn-  
thesis of Streptomycin During Stab Cultivation.

Orig Pub : Mikrobiologiya, 1957, 26, No. 1, 22-30

Abstract : Changes are described of the cytological struc-  
ture and cytochemical properties of protoplasm  
in a producer of streptomycin with its stab cul-  
tivation in a medium with corn extract as the  
fermenter. A decrease of the basophil of the  
protoplasm (9-12 hour maximum development) is

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USSR / Microbiology. Antibiosis And Symbiosis.  
Antibiotics.

F

Abs Jour : Ref. Zhur - Biol., No 21, 1958, No 95031

observed in proportion to the development of the culture, the isoelectric point (IEP) moves from a more acid to a less acid area. The dimensions of the nuclear elements and the content of DNA in them (maximum at end of development) are also changed in proportion to the development of the culture. In the early stages of development (3-6 hours), DNA is not found at all in the mycelia; in these hours of development the thymine found in later stages is absent. Some still unidentified nitrogenous base "X" is found in place of thymine. Maximal formation of the antibiotic is connected with the determined period of the life cycle of the producer, with the characterized growth retardation, decrease of the basophil of

Card 2/3

USSR / Microbiology. Antibiosis and Symbiosis.  
Antibiotics.

F

Abs Jour : Ref. Zhur - Biol., No 21, 1958, No 95031

the protoplasm, transfer of the IEP of the cytoplasm into a less acid area, decrease of the content of RNA in the cytoplasm, increase of the DNA content in the nuclear substance of many parts of the mycelia, and decrease of the content of several amino-acids in the mycelia. It is proposed that the nuclein metabolism most of all determines the features of the life cycle of the culture, but is not the immediate link of the biosynthetic mechanism of the antibiotic. --  
L. N. Kats.

Card 3/3

**AUTHORS:** Demyanovskaya, N. S. Znamenskaya, M. P. 20-114-4-48/63

**TITLE:** The Influence Produced by Oxygen Upon the Desoxyribonucleic Acid of Actinomyces Mycelium (Vliyaniye kisloroda na dezoksi-ribonukleinovuyu kislotu mitseliya aktinomitseta)

**PERIODICAL:** Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 856-858 (USSR)

**ABSTRACT:** In their previous publication the authors showed that the influence of some oxidizing agents (red blood salt, hydrogen peroxide) considerably lowers the intensity of the color reaction (Diché) on the desoxyribonucleic acid (henceforth called DNA). This is true for objects of different origin, especially for the mycelium of Actinomyces. The authors found that this fact, in an analogous ratio was completely missing in a freshly prepared struma gland preparation as well as in a DNA preparation isolated from it, which latter served as a comparison standard. At that time they expressed the opinion that the different behaviour of DNA of different origin, namely of its carbon hydrate part, with regard to oxidation is determined not only by its structural peculiarities but also by the total specific qualities of the substances

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The Influence Produced by Oxygen Upon the Desoxyribonucleic Acid of Actinomyces Mycelium 20-114-4-48/63

connected with it. In other words, the different stability of the DNA reflects more or less the physiological peculiarity of that object or tissue in which it occurs. In this connection it was interesting to determine whether the oxidizing agents would also influence the intensity of Diché's reaction, if DNA had been liberated from the actinomyces (pl.). The nucleic acids isolated from Actinomyces globisporus streptomycini possess a number of peculiar properties: this DNA, unlike such from animal tissues, may be extracted easily from mycelium. Therefore it is apparently less aggregated and lower molecular than the latter ones. It further represents a mixture or a combination of ribonucleic- and desoxyribonucleic acid. The experiments showed that after a 40 hours' influence of a 0,15% hydrogen peroxide solution the intensity of Diché's reaction remained the same. That was also the case in the DNA of struma gland preparations. Thus the problem was raised where to find the actual cause for the decrease in the intensity of Diché's reaction in Actinomyces mycelium, which had been subjected to oxidation. It might have been possible that the Diché's reaction carried through on mycelium had directly lessened the intensity of this reaction, because of

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The Influence Produced by Oxygen Upon the Desoxyribonucleic 20-114-4-48/63  
Acid of Actinomyces Mycelium

of partial desaggregation of the desoxyribonucleoproteides with their subsequent washing out of the decomposed mycelium. In order to clarify this problem the authors studied more closely the influence of oxygen upon DNA in Actinomyces mycelium. As a standard they used a DNA-preparation from the struma gland with a certain content of phosphorus. Influence of oxygen upon a mycelium suspension in water caused a decrease in the content of DNA by 50-70% of the original amount, as compared with only 2% in fresh mycelium. Another oxygen blast did not change the intensity of the Diché's reaction. DNA must apparently exist in two forms in mycelium, one of them being more mobile and capable of reaction than the other which is not altered by oxygen. The authors maintain that the decrease in intensity of Diché's reaction occurs because of oxidizing-reducing processes, which no doubt take place under participation of the fermentative system of the mycelium, for in boiled mycelium it does not occur. In this connection the authors maintain that the same decrease under the influence of red blood salt or hydrogen peroxide did not only occur because of an actual oxidation of the DNA, but

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The Influence Produced by Oxygen Upon the Desoxyribonucleic 20-114-4-48/63  
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also due to the intensification of the desaggregation process of the desoxyribonucleoproteides which followed their liberation from the mycelium.  
There are 1 figure, 1 table, and 3 references, 2 of which are Soviet.

**ASSOCIATION:** Institut biokhimii im. A. N. Bakha Akademii nauk SSSR  
(Institute for Biochemistry imeni A. N. Bakh of the AS USSR)

**PRESENTED:** February 12, 1957, by A. I. Oparin, Member, Academy of Sciences, USSR

**SUBMITTED:** February 1, 1957

Card 4/4

ACCESSION NR: AP4043943

S/0218/64/029/004/0774/0779

AUTHOR: Lyubimova, M. N.; Demyanovskaya, N. S.; Fedorovich, I. B.;  
Itomlenskite, I. V.

TITLE: Participation of ATP in the motion function of the Mimosa  
pudica leaf

SOURCE: Biokhimiya, v. 29, no. 4, 1964, 774-779

TOPIC TAGS: adenosine triphosphate, ATP, plant motion, motion  
function, nucleotide, macroerg, luciferin, ATP determination, Mimosa  
pudica

ABSTRACT: A study was conducted to establish which nucleotide  
(macroerg) participates in the motive function of the Mimosa pudica  
leaf. It was believed that the motive function in the Mimosa leaf  
is caused by the same factors as in other moving life systems, i.e.,  
the presence of ATP and ATPase. Therefore, quantitative determination  
of ATP was undertaken in all the elements (primary and secondary  
stems, links, and leaflets) of the Mimosa pudica leaf. The links,  
which contain unusual round cells, are considered to be responsible

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ACCESSION NR: AP4043943

for producing the actual motion. ATP was extracted systematically from intact upright leaves anesthetized with ether and frozen in liquid nitrogen, and from fatigued, restored, and "sleeping" leaves. The ATP was extracted from the triturated plant mass with 2.5% tri-chloroacetic acid, precipitated as Ba-salt, and dried in a dessicator. Quantitative determinations were conducted by the photoluminescence method; measurements were conducted of the intensity of the extract containing luciferin-luciferase, which is directly proportional to the ATP content. It was found that the links contained more ATP than any other leaf elements. The highest amount (approximately 24  $\mu$ g per 1 g plant raw substance) was found in the leaflet-secondary stem links. The ATP content in the fatigued leaves dropped to 30% of the initial value; in the rested leaves, the ATP content was almost at the initial level. The data obtained indicate that ATP is the leading macroerg in the motion of the leaves of *Mimosa pudica*. Gratitude is expressed to Prof. L. A. Tumerman for the use of facilities for the determination of small amounts of ATP. Orig. art. has: 4 figures and 1 table.

Card 2/3

ACCESSION NR: AP4043943

ASSOCIATION: Institut biokhimii im. A. N. Bakha (Institute of Biochemistry); Institut radiatsionnoy i fiziko-khimicheskoy biologii Akademii nauk SSSR, Moscow (Institute of Radiation and Physicochemical Biology, Academy of Sciences SSSR)

SUBMITTED: 04Apr64

ATD PRESS: 3089

ENCL: 00

SUB CODE: LS

NO REF SOV: 010

OTHER: 014

Card 3/3

LYUBIMOVA, M.N.; DEMYANOVSKAYA, N.S.; FEDOROVICH, I.B., ITOMLENSKITE, I.V.

Functional relation between adenosine triphosphate and leaf movement in *Mimosa pudica*. Dokl. AN SSSR 161 no.4:964-967 Ap '65.

(MIRA 18:5)

1. Institut biokhimii im. A.N.Bakha i Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Submitted April 13, 1964.

DEM'YANOVSKAYA, Ye.I. [Dem'ianovs'ka, IE.I.]

Using radioactive logging methods in studying coal-bearing  
formations as revealed by the Lvov-Volyn' Basin. Geol.zhur.  
21 no.6:66-73 '61. (MIRA 15:2)

1. Institut geologii poleznykh iskopayemeykh AN USSR.  
(Lvov-Volyn' Basin—Coal geology) (Radioactive prospecting)

DEM'YANOVSKAYA, Z.M.

NOGALLER, A.M.; PLAKSIN, V.A.; TSESEL'SKIY, D.S.; LIBIN, A.L.; MEZENIN, N.N.;  
CHIGRINTSEVA, M.F.; DEM'YANOVSKAYA, Z.M.

Using low-calory diets in the compound treatment of hypertension at  
the Kislovodsk health resort. Vop.pit. 16 no.1:76-78 Ja-F '57.

(MIRA 10:3)

1. Iz Bal'neologicheskogo instituta na Kavkazskikh mineral'nykh  
vodakh i sanatoriyev imeni Lenina, imeni X let Okt'yabrya, "Skala",  
"Gornyyak" No.3 i No.19 Kislovodskogo kurorta.

(HYPERTENSION) (KISLOVODSK--DIET IN DISEASE)

(DIET IN DISEASE)

L 00756-47 EWP(m)/EWP(c)/EWT(1) IJP(c) GW

ACC NR: AP6024187

SOURCE CODE: UR/0424/66/000/002/0011/0016

AUTHORS: Devyanin, Ye. A. (Moscow); Dem'yanovskiy, A. P. (Moscow)

ORG: none

TITLE: Determination of absolute angular velocity, distance to the center of attraction, and construction of the vertical by inertial means

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 2, 1966, 11-16

TOPIC TAGS: inertial guidance, algebraic equation, spacecraft motion, motion equation

ABSTRACT: A body of mass  $M$  is considered moving in the Newtonian field of an attracting center at  $O_1$ . The coordinate system  $O_1\xi\eta\zeta$  is fixed with the body (the origin  $O$  is not necessarily the center of mass). The components of the absolute angular velocity vector  $\vec{\omega}$  of the body along the coordinate axes are denoted by  $p, q, r$  and the direction cosines of the vector  $\vec{\rho}(O, O_1)$  of length  $\rho$  are  $x, y, z$ . Four triplets of newtonmeters oriented along the  $\xi, \eta, \zeta$  axes are mounted at  $O$  and the points  $I_1 = I\xi, I_2 = I\eta, I_3 = I\zeta$ . Then

$$\begin{cases} p^2 + k(1 - 3x^2) = a_1, & pq - 3kxy = b_1 \\ (xyz, pqr, 123) \end{cases}$$

where the symbol  $(xyz, pqr, 123)$  denotes cyclic permutation of the variables and

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E 00756-67

ACC NR: AP6024187

indices;  $a_1, b_1$  (123) are the linear combinations of the newtonmeter readings;  
 $k = \mu M / \rho^3$ ; and  $\mu$  is the attraction constant. Detailed calculations are carried  
 out to find the absolute angular velocity, distance to the attracting center, and  
 the vertical from this system of algebraic equations. All the solutions obtained as  
 a result of this procedure are investigated. The authors thank A. Yu. Ishlinskiy for  
 useful comments. Orig. art. has: 98 equations and 1 figure.

SUB CODE: 20,22/ SUBM DATE: 06Apr65/ ORIG REF: 001

*me*  
 Card 2/2

L 27509-66 EWT(d)/EEC(k)-2/FSS-2 BC

ACC NR: AP6011126

SOURCE CODE: UR/0424/66/000/001/0014/0019

AUTHORS: Andreyev, V. D. (Moscow); Devyanin, Ye. A. (Moscow); Den'yanovskiy, A. P. (Moscow)

ORG: none

TITLE: The theory of inertial systems containing no gyroscopic sensing elements

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 1, 1966, 14-19

TOPIC TAGS: inertial navigation equipment, ordinary differential equation, error analysis, gravitational potential, Laplace equation

ABSTRACT: The possibility is investigated of using an inertial guidance system (Newtonometers) without the presence of gyroscopic sensing elements. For an object moving near the terrestrial surface, it is assumed that there exists a trihedron attached to a platform, denoted by  $Ox_1x_2x_3$ . To this trihedron are attached four triple-Newtonometers, the sensitive mass of one of which is at point O, and the others on the axes  $x_1, x_2, x_3$ . It is then shown that for a gravity potential satisfying the Laplace equation the complete information obtained from these Newtonometers (without gyroscopic sensitive elements) can be expressed by the group

$$n_i^0 = v_i + \omega_1 v_2 - \omega_2 v_1 - \frac{\partial v_0}{\partial x_i}$$

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L 27570-66

ACC NR: AP6018484

3

The enhanced protection resulting from the use of the two agents is due not only to the difference in mechanism of action of the agents but to the fact that they provide differentiated protection of various systems. AET and AETP protected bone marrow and intestine equally, whereas 5-MOT protected only bone marrow. The synthesis of the compounds was carried out in the laboratories of Academician I. L. Knunyants (AETP), Professor N.N. Suvorov (5-MOT) and Candidate of Chemical Sciences V. M. Fedoseyev (AET). The author thanks them for making possible the preparations. Orig. art. has: 2 figures and 2 tables. [JPRS]

SUB CODE: 06 / SUEM DATE: 25Sep64 / ORIG REF: 017 / OTH REF: 009

Card 2/2

DEM'YANOVSKIY, K.I., inzhener.

~~Microgeometric measurements of cutting tools. Der.1 lesokhim.prom.~~  
3 no.3:11-13 Mr '54. (MLRA 7:3)

1. Arkhangel'skiy ordena Trudovogo Krasnogo Znameni lesotekhnicheskoy institut im. V.V.Kuybysheva. (Woodworking machinery)

DEMIYANOVSKIY, K. I.

"Investigation of the Wearability of Planing Blades Made of Various Steel Grades and Subjected to Various Heat Treatments." Cand Tech Sci, Leningrad Order of Lening Forestry Engineering Academy imeni S. M. Kirov, Leningrad, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 -- Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

DEM'YANOVSKIY, K.I., kand.tekhn.nauk

Studying the sharpening of planing cutters made from steels  
of various makes. Der.prom. 10 no.10:17-19 0 '61. (MIRA 14:9)  
(Planing machines--Maintenance and repair)  
(Grinding machines)

DEM'YANOVSKIY, Konstantin Il'ich, kand. tekhn. nauk;  
BYZOV, Vasily Ivanovich, inzh.; KRYUCHKOV, A.M., red.

[Ways for increasing the wear resistance of saws] Puti povysheniya iznosostoikosti pil. Leningrad, 1963. 20 p. (Leningradskii Dom nauchno-tekhnicheskoy propagandy. Otmen peredovym opytom. Seriya: Derevoobrabatывaushchaya promyshlennost', no.6) (MIRA 17:4)

DEM'YANOVSKIY, K.I.; DUNAYEV, V.D.

Truing the abrasive wheels of knife sharpening machines of the  
TchN type. Der. prom. 12 no.10:7-8 O '63. (MIRA 16:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy  
obrabotki drevesiny.

DEM'YANOVSKIY, K.I.; DUNAYEV, V.D.

Performance efficiency of abrasive wheels in sharpening planing  
knives. Der. prom. 13 no.3:9-12 Mr'64 (MIRA 17:7)

DEM'YANOVSKIY, K.I., kand. tekhn. nauk; BYZOV, V.I., inzh.

More on the hardening of saw teeth. Der. prom. 13 no.6:15-  
16 Je '64. (MIRA 17:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut  
mekhanicheskoy obrabotki drevesiny.

DEM'YANOVSKIY, Konstantin Il'ich, kand. tekhn.nauk; DUNAYEV,  
Viktor Dmitriyevich, inzh.; KONDRATOVICH, N.Ye., red.

[Sharpening woodcutting tools] Zatochka derevorezhu-  
shchikh instrumentov. Moskva, Lesnaia promyshlennost',  
1965. 201 p. (MIRA 18:3)

DEM'YANOVSKIY, N.I.

Grinding wheels and grinding conditions for frame saws.  
Der. prom. 14 no.8:8-10 Ag '65. (MIRA 18:10)

L 10306-63      EPI(n)-2/EWT(m)/BDS--AFFTC/  
ASD/AFWL/SSD--Pu-4--AR  
ACCESSION NR: AP3002724

S/0120/63/000/003/0082/0084

AUTHOR: Dem'yanovskiy, O. B.; Leykin, Ye. M.; Yablomin, K. I.

62  
61

TITLE: Stable single-tube integrator for nuclear radiation monitors

19

SOURCE: Pribery i tekhnika eksperimenta, no. 3, 1963, 82-84

TOPIC TAGS: one-tube integrator, blocking oscillator, particle stream,  
nuclear transformation, current distribution, counting speed multiplying factor

ABSTRACT: The operation of an integrator based on the principle of the recharging of a capacitor in the grid network of a blocking oscillator is discussed. The integrator, whose basic circuit appears in Fig. 1 of the Enclosure, is used for measuring a particle stream which causes nuclear transformations. This single-tube circuit permits the measurement of sensor currents which exceed  $10 \text{ sup } -11$  to  $10 \text{ sup } -12$  amp, regardless of the current distribution in time. When a supply voltage is applied, a blocking process

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ACCESSION NR: AP3002724

takes place in the circuit; as a result, capacitor C, which is connected between the grid and a secondary winding of a blocking oscillator transformer, will be charged by grid currents up to voltage  $U_{sub C}$ . Under these conditions the tube will be cut off. This state of the circuit is stable, due to the absence of discharging elements in the capacitor network. In the presence of radiation a negative charge on capacitor C, which maintains the tube in its cutoff state, is compensated by a positive charge which builds up in an ionization chamber. The number of blocking processes is summed by a registering device. The multiplying factor of the integrator is determined by capacitor C and the voltage difference between the charging level of C and the cutoff voltage of the tube. The multiplying factor of the described circuit is equal to  $10 \sup -9$  to  $10 \sup -10$  coulomb. Integrators of this type were found to be linear over a broad range. Deviations could be observed during measurements of very small currents commensurate with dark currents ( $10 \sup -14$  amp) and during measurements of large currents when counting speed is increased so much that the time between operating cycles becomes commensurate with the pulse duration of the integrator. A comparison was made continuously over a two-week period using two monitors installed in a beam of Gamma-radiation from a synchrotron. The data obtained demonstrate that the relative reading spread of these integrators

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L 10306-63

ACCESSION NR: AP3002724

does not exceed 1%. Orig. art. has: 4 figures, 1 table, and 3 formulas.

ASSOCIATION: Fizicheskij institut AN SSSR (Physics Institute AN SSSR)

SUBMITTED: 08May62 DATE ACQ: 12Jul63 ENCL: 01

SUB CODE: 00 NO REF SOV: 000 OTHER: 000

Card 3/4

L 46158-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-7/Pab-10 LJP(c) GS

ACCESSION NR: AT5007923

S/0000/64/000/000/0355/0357

AUTHOR: Ado, Yu. M.; Belovintsev, K. A.; Belyak, A. Ya.; Bessonov, Ye. G.;  
Dem'yanovskiy, O. B.; Skorik, V. A.; Cherenkov, P. A.; Shirchenko, V. S.

50  
49  
B+

TITLE: Storage of particles in a synchrotron 19

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy.  
Moscow, Atomizdat, 1964, 355-357

TOPIC TAGS: high energy accelerator, charged particle beam, particle physics,  
synchrotron

ABSTRACT: Synchrotron-type accelerators of several 100 Mev and higher can be  
employed for particle storage [Yu. M. Ado, "Atomnaya Energiya, 12, 54 (1962)]. In  
the case of simultaneous storage of electrons and positrons in an accelerator, one  
can obtain colliding electron-positron beams. In order for a synchrotron to oper-  
ate in the storage state, the constant component of the driving magnetic field must  
be larger than the amplitude of the variable component. In particular, if the vari-  
able component is a sinusoidal function of time, the driving magnetic field  $H$  must  
have a specified shape. In this case, the accelerating hf potential is step-shaped.

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L 46158-65

ACCESSION NR: AT5007923

i.e. remains switched on continuously in contrast to the synchrotron's operation in the usual state. The injection of particles is effected at moments of time  $t_1, t_2, t_3, \dots$ , which correspond to intersections of the ascending curve  $H$ -versus- $t$  with the constant ordinate  $H_1$ . The particles captured in the synchrotron state of the storage device, which are accelerated during the rising portion of the magnetic field  $H$  and slowed down when the magnetic field is decreasing, remain in the accelerator chamber for a period that is determined mainly by the scattering processes and by the bremsstrahlung on the atoms of the residual gas. During each period of the driving magnetic field  $H$  close to maximum  $H$  there exists considerable radiation damping of the amplitudes of betatron and synchrotron oscillations. As a result, the phase volume occupied by the particles decreases. This permits the onset of amplitude modulation of the specified hf-potential without loss of the particles captured earlier. In this case, the injection of particles will proceed into the phase space between the separatrices which are defined by the amplitudes of hf-potential  $U$  (maximum step value) and  $U - \Delta U$  (modulation decrement due to  $H$  being less than  $H_1$  for the brief periods just before  $t_1, t_2, t_3, \dots$ ). The admissible depth of modulation  $\Delta H$  is larger the larger the magnitude of radiation damping of the oscillations. The effectiveness of the injection into the synchrotron state of storage during onset of amplitude modulation of the hf-potential is ten times the effectiveness of injection directly into the steady-state separatrix. In the case

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of particle storage in a synchrotron, injection is effected into the variable magnetic field during the low energy of the injected particles which is typical for the given accelerator. Consequently the problem of particle injection is essentially simplified in comparison with injection into storage rings. Moreover, the small injection energy simplifies the problem of obtaining positrons. These properties permit attainment of a comparatively high rate of storage and thus a lowering of the requirements made on the degree of vacuum. To verify the possibility in principle of realizing the method of particle storage in a synchrotron, experiments were carried out on a 280-Mev synchrotron under specific conditions of particle energy (170 Mev for maximum  $H$  and 7 Mev for minimum  $H$ ), amplitude  $U$  of hf-potential (1.8 kv), modulation depth  $\Delta U$  (0.36 kv), rate of growth of driving magnetic field at moment of injection ( $1.5 \cdot 10^5$  oersteds/sec), pressure of residual gas in vacuum chamber ( $5 \cdot 10^{-6}$  mm/Hg). The source of electrons is an 8-Mev microtron [K. A. Belovintsev, A. Ya. Belyak, A. M. Gromov, Ye. M. Moroz, P. A. Cherenkov, "Atomnaya Energiya, 14, 359 (1963)]. Finally as shown by tests conducted on electron storage in a synchrotron, it is possible to carry out simultaneous storage of both electrons and positrons in quantities sufficient for setting up experiments on colliding beams if the pressure in the vacuum chamber is lowered to  $10^{-8}$  mm/Hg and the conditions for particle capture are suitably improved. Orig. art. has 4 figures.

Card 3/4

L 16158-65

ACCESSION NR: AT5007923

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR (Physics Institute AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP

NO REF SOV: 002

OTHER: 000

Card 4/4

DEMYANOVSKIY, S.Ya.; ROZHDESTVENSKAYA, V.A.

Some results of the work of the Department of Organic and Biological Chemistry in studying the biochemistry and physiology of the mulberry silkworm and Chinese tussah moth. Uch. zap. MGPI 140:3-54 '58. (MIRA 16:8)

1. Iz laboratorii organicheskoy i biologicheskoy khimii Moskovskogo gosudarstvennogo pedagogicheskogo instituta imeni Lenina.

BELYAYEVA, N.N.; DEMYANOVSKIY, S.Ya.; MAMED-NIYAZOV, A.N.;  
TUGUSHEVA, Kh.N.

Chemical composition of leaves of the Khasak mulberry from  
the Bayram-Ali region of the Turkmen S.S.R. Uch. zap. MGPI  
140:55-61 '58, (MIRA 16:8)

1. Iz laboratorii organicheskoy i biologicheskoy khimii  
Moskovskogo gosudarstvennogo pedagogicheskogo instituta  
imeni V.I. Lenina.

ANISIMOVA, T.M., kand.tekhn.nauk, assistant; DEM'YANOVSKIY, V.I., inzh.

Combination furnace for burning high-moisture fuel. Bum.prom.  
33 no.10:16-19 0 '58. (MIRA 11:11)

1. Kafedra teplotekhniki Lesotekhnicheskoy akademii im. S.M. Kirova  
(for Anisimova). 2. Glavnyy energetik Arkhangel'skogo tsellyulozno-  
bumazhnogo kombinata (for Dem'yanovskiy).  
(Paper industry--Equipment and supplies) (Furnaces)

ABRAMOVICH, A.D., kand. tekhn. nauk; ANTONOV, M.F., kand. tekhn. nauk; KAPLAN, G.A., inzh.-ekonomist; LEVIN, S.M., inzh.-zemleustroitel'; LISTENGURT, F.M., kand. geogr. nauk; SAMOYLOV, Ya.M., kand. tekhn. nauk; SMOLYAR, I.M., kand. arkhitek.; SOLOFNINKO, N.A., kand. arkht.; STERLIGOV, V.D., kand. arkht.; FALEYEV, V.G., inzh.; Prininali uchastiye: BUTUZOVA, V.P.; GLABINA, N.K.; GOL'DSHTEYN, A.M.; DEMYANOVSKIY, V.S.; KAPLAN, G.L.; FEDOTOVA, N.A.; TSEYTLIN, G.I.; BURLAKOV, N.Ya., red.; KOMPANEYETS, Z.N., red. izd-va; GOLOVKINA, A.A., tekhn. red.

[Regional planning of economic administrative regions, industrial regions and centers; planning guide] Raionnaia planirovka ekonomicheskikh administrativnykh raionov, promyshlennyykh raionov i uzlov; rukovodstvo po proektirovaniyu. Pod red. N.IA. Burlakova. Moskva, Gosstroizdat, 1962. 266 p. (MIRA 15:10)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut gradostroitel'stva i raionnoi planirovki. 2. Zamestitel' direktora po nauchnoy rabote Nauchno-issledovatel'skogo instituta gradostroitel'stva i rayonnoy planirovki (for Burlakov).
3. Nauchno-issledovatel'skiy institut gradostroitel'stva i rayonnoy planirovki (for Butuzova, Glabina, Gol'dshteyn, Demyanovskiy, Kaplan, Fedotova, Tseytlin).

(Regional planning)

RUSANOVA, K.P.; DEM'YANOVSKIY, V.V.

Automatic pressure recording system in the drying of food products  
by sublimation. Izv.vys.ucheb.zav.; pishch.tekh. no.1:167-170 '64.  
(MIRA 17:4)

1. Moskovskiy tekhnologicheskii institut myasnoy i molochnoy  
promyshlennosti, kafedra oborudovaniya mashin i apparatov  
myasokombinatov.

POKHIL'KO, K.D.; DEM'YANTS, L.A.; ZAYTSEV, Kh.P.; MOSHKOVICH, I.Ye.;  
PUZYR'KOV, P.I.

Centralized manufacture of spare parts for the equipment of  
metallurgical plants. Metallurg 5 no.2:33-35 F '60.  
(MIRA 13:5)

1. Dnepropetrovskiy sovnarkhoz i Dnepropetrovskiy metallurgicheskii institut.  
(Metallurgical plants--Equipment and supplies)

PETROV, G.A., kand.tekhn.nauk, dotsent; DEMYANTSEVICH, V.P., kand.tekhn.  
nauk, dotsent; RYZHIK, Z.M., inzh., red.; ANDREYEV, V.M., prof.,  
otv.red.; GVIRTIS, V.N., tekhn.red.

[Harmless LPI-2 flux for automatic and semiautomatic welding]  
Bezvrednyi flius LPI-2 dlia avtomaticheskoi i poluavtomati-  
cheskoi svarki. Leningrad, 1954. 5 p. (Informatsionno-tekhnicheskii listok, no.12 (585)).

(MIRA 14:6)

1. Leningradskiy Dom nauchno-tekhnicheskoy propagandy. 2. Leningradskiy Dom nauchno-tekhnicheskoy propagandy (for Ryzhik).  
(Electric welding—Hygienic aspects)  
(Flux (Metallurgy))

DEMYANTSEVICH, V. P.

PA 1/50T28

USSR/Engineering - Welding, Arc Sep 49

"Automatic Shielded Arc Welding at High Current Densities," V. P. Demyantsevich, I. A. Blokh, Engineers, 2 pp

"Avtozen Delo", No 9, pp 3-6.

Discusses automatic shielded arc welding at current densities in electrodes exceeding 100 a/sq mm. Tests were conducted with 2-mm electrodes at 600 and 800 amperes for various values of arc voltage and electrode feed. Current density in electrodes reached 250 a/sq mm AC at electrode speeds of about 10 m/min. Welding

1/50T28

USSR/Engineering - Welding, Arc (Contd) Sep 49

at high current densities simplifies the design of automatic welders. It results in a saving of electric power and is effective for greater metal thickness. Graphs and photographs illustrate results.

1/50T28

DEMYANTSEVICH, V. P.

The following is among dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

Investigation of the influence of Control Methods of Welding Machines on the Formation of Seams During Welding under Conditions of the Oscillation of the Network Voltage." 20 March 1950. On the basis of theoretical and experimental investigations, qualitative and quantitative relationships have been established between the electric parameters of closed-arc welding process and the geometrical dimensions of the weld seams under conditions of oscillation of the network voltage for different methods of welding machine control.

SC: M-1048, 28 Mar 56

DRYKENSHTON, Z.B.; ZVEGINTSEV, S.K., inzhener, retsenzent; DEMYANTSEVICH,  
V.P., kandidat tekhnicheskikh nauk, redaktor

[Welding ship pipeline systems] Svarka sudovykh truboprovodov.  
Moskva, Gos. nauchno-tekhn. issledovaniya mashinostroit. i sudostroit.  
lit-ry, 1953. 47 p. [Microfilm] (MLRA 7:10)  
(Marine pipe fitting) (Welding)

DEMYANTSEVICH, V. P.

BEL'CHUK, Georgiy Aleksandrovich; MATSKEVICH, Vadim Dmitriyevich;

DEMYANTSEVICH, V.P., redaktor; OSVENSKAYA, A.A., redaktor;

KONTOROVICH, A.I., tekhnicheskiy redaktor.

[Welding in ship-building] Svarka v sudostroenii. Leningrad,  
Gos.Soluznoe izd-vo sudostroit.promyshl.1955. 387 p.

(Ships---Welding)

(MLRA 8:10)

DEMYANTSEVICH, V.P.

137-58-5-9747

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 128 (USSR)

AUTHORS. Benua, F.F., Demyantsevich, V.P., Kushnarev, L.N.

TITLE: Novel Developments in the Automation and Mechanization of Electric Arc and Slag Welding (Novoye v oblasti avtomatizatsii i mekhanizatsii protsessov elektricheskoy dugovoy i shlakovoy svarki)

PERIODICAL: V sb.: Svarochnoye proiz-vo. Leningrad, Lenizdat, 1957, pp 17-37

ABSTRACT: The results of a number of investigations and production studies of automation and mechanization of welding processes are communicated. 1. An investigation of the effect of electrode diameter (current density) on the melting of the parent and the electrode metal. An increase in current density improves the efficiency of the processes of fusion of the product and the electrode. Thus, for wire of 2-mm diameter, an increase in current from 300 to 600 amps changes the share of the heat expenditure required to melt the parent metal from 15 to 28%, that for the electrode from 12 to 19.8%, that for the flux from 36.8 to 29.2% and that going into heat dissipation from 36.2 to 28.6%;

Card 1/3

137-58-5-9747

Novel Developments in the (cont.)

this results in an increase in the deposition efficiency and the depth of penetration. 2. Development of a procedure of automatic submerged slag welding of parts of large cross section at high current densities by electrodes 1.6-3 mm in diameter. The joint is held in a detachable copper or ceramic form. The tips of the automatic welder go into the gap (20-25 mm) until they are 50-70 mm apart. About 30 or 40 sec after welding starts, the arc process converts to a slag process. Filler metal added to the liquid bath diminishes its temperature, inhibits grain growth and raises the  $\alpha_{\text{K}}$  from 1.7 to 8.1-12.5 kgm/cm<sup>2</sup> (Sv08A electrode, OSTs-45 flux). The power supply circuit from the 1st to the 4th electrode (E) and technical and cost criteria for the process are presented. 3. Development of a procedure of flat-position automatic slag welding of sheets >20 mm in diameter. The welding is done on a Cu backing with a groove 20 mm wide and 5 deep, the gap between the edges of the sheets being 12-16 mm. 3 E spaced 30 mm apart are used, the first being an 8-mm tungsten tip, and the others consumable 2-mm types. The W E is powered by 32-38-v D-C. The consumable E are powered from 2 STE-34 transformers in open delta network. 4. A search for an efficient method of automatic surfacing. It was found that the highest output was attainable with single-phase, two-electrode, three-arc facing, with 2-mm diameter E fed from a single STE-34 transformer (7.8-19.5 kg metal applied per hour). Card 2/3

137-58-5-9747

Novel Developments in the (cont.)

5. The development, for the processes described, of special 2-electrode automatic and semiautomatic welders of the following model designations: DEShA - LIIVT-5, DEShP-LIIVT-5, DEA-2, and ADSD-500. 6. An investigation of the effect of the schedule in CO<sub>2</sub> welding with small-diameter electrodes, and the development of designs for automatic equipment for this type of welding. 7. Development of equipment for mass production of oil transformer housing of various models and sizes.

V.S.

1. Arc welding--Control

Card 3/3

SOV-135-58-10-16/19

AUTHORS: Okerblom N.O., Doctor of Technical Sciences, Professor,  
Demyantsevich, V.P., and Petrov, G.L., Candidates of Technical Sciences

TITLE: Problems of Electrode Standardization in Arc Welding (K  
voprosu o standartizatsii elektrodov dlya dugovoy svarki)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 10, pp 40 - 42 (USSR)

ABSTRACT: With reference to an article published by A.A. Yerokhin in  
a previous copy of this periodical, entitled "Principal  
Problems of Standardization For Arc-Welding Electrodes", the  
authors present some principal and practical observations  
dealing with the classification and requirements of different  
electrode types. As an example, 4 tables containing  
approximate requirements of electrodes for welding different  
steel grades, are included. There are 4 tables.

ASSOCIATION: Leningradskiy politekhnicheskii institut (Leningrad Poly-  
technical Institute)

1. Arc welding--Electrodes 2. Electrodes--Standardization

Card 1/1

DEMYANTSEVICH, V.P.; SHCHIPKOV, M.D.

Investigating the properties of 3kh2B8 and P9 metals welded  
on tools for hot pressing. Trudy LPI no.199:136-142 '58.

(MIRA 12:9)

(Dies (Metalworking)--Maintenance and repair)

(Welding--Equipment and supplies)

(Metallography)

DEMYANTSEVICH, V ?

88(1)

PHASE I BOOK EXPLOITATION

SOV/3085

Demyantsevich, Vladimir Petrovich, and Semen Isaakovich Dumov

Tekhnologiya elektricheskoy dugovoy svarki (Technique of Electric-arc Welding) Moscow, Mashgiz, 1959. 360 p. 20,000 copies printed.

**Reviewers:** M.N. Zaytsev, Engineer, M.B. Shub, Engineer, and M.V. Prikhodkin, Engineer; **Ed.:** D.I. Navrotsky, Candidate of Technical Sciences, Docent; **Ed. of Publishing House:** V.P. Vasil'yeva; **Tech. Eds.:** R.G. Pol'skaya and O.V. Speranskaya; **Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz):** F.I. Fetisov, Engineer.

**PURPOSE:** This is a textbook for students of tekhnikums.

**COVERAGE:** The book deals with aspects of electric-arc welding and hard facing, including the theoretical basis, the welding materials used, manual and automatic methods, and special applications.

**Card 1/5**

**Technique of Electric-arc Welding**

SOV/3085

Methods of welding low-carbon and alloy steels, cast iron, and nonferrous metals are explained. Welding stresses and deformations and methods of producing welded structures are also discussed. No personalities are mentioned. There are 26 references, all Soviet.

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Technique of Electric-arc Welding

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AVAILABLE: Library of Congress (TK4660.D4)

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VK/bg  
2-9-60

BEL'CHUK, Georgiy Aleksandrovich, kand. tekhn. nauk, dots., prepodavatel';  
MATSKEVICH, Vadim Dmitriyevich, kand. tekhn. nauk, dots., prepodava-  
tel'; DEBYANTSEVICH, V.P., dots., kand. tekhn. nauk, nauchnyy red.;  
PROKHOROV, N.N., prof., doktor tekhn. nauk, retsenzent; KAZAROV,  
Yu.S., red.; KOROVENKO, Yu.N., tekhn. red.

[Welding in shipbuilding] Svarka v sudostroenii. Leningrad, Gos.  
soiuznoe izd-vo sudostroit. promyshl., 1961. 431 p.

(MIRA 14:10)

1. Kafedra "Svarka sudovykh konstruktsiy" Leningradskogo korable-  
stroitel'nogo instituta (for Bel'chuk, Matskevich).

(Shipbuilding) (Welding)

35006

S/563/61/000/216/003/007  
D215/D304

18.12.45

AUTHORS: Demyantsevich, V.P., and Shchipkov, M.D.

TITLE: Joint structures and properties in argon-arc welded  
MA-2 (MA-2) alloy

SOURCE: Leningrad. Blitekhnicheskii institut. Trudy, no. 216.  
Moscow, 1961. Svarochnoye proizvodstvo, 75 - 82

TEXT: Principal constituents of the MA-2 are 3 - 4 % Al, 0.15 - 0.5 % Mn, 0.2 - 0.8 % Zn, remainder Mg. Automatic argon tungsten arc welds were made in plates 200 x 100 x 5 mm, using a.c., a 6 mm diameter electrode, and 5 mm diameter wire with increased Zn (0.8 - 1.5 %) and Mn (0.4 - 0.8 %) contents. The edge preparation was an open single-V butt joint with variable included angle (30 - 120°), root gap (0 - 2 mm), and constant root face (1 mm) to give a range of weld metal dilutions. Welds were made on to stainless steel backing with a current of 200 - 400 A, arc voltage 22 - 33 V, welding speed 10 - 53 m/hr., and wire feed rate 25 - 88 m/hr. To define welding conditions the linear energy was used equal to

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X

Joint structures and properties ...

S/563/61/000/216/003/007  
D215 /D304

$V \times A \times 0.55$  (assumed efficiency)  
welded speed

which gave a range of 1100 - 4300 cal/cm. Its influence was expressed in terms of (1) area of fusion (2) weld metal dilution (= % vol of fused parent metal in the weld). (↑) Rose with linear energy and (2) stayed reasonably constant, so that the chemical composition did not vary greatly. All welds were fine-grained with a uniform distribution of intermetallic constituents at the grain boundaries. Grain growth and coarseness of the intermetallics in the heat-affected zone increased with increasing linear energy. Annealing for 30 min. at 320 and 420°C did not completely homogenize the cast weld structure, but considerably reduced the quantity of intermetallic constituents, improved the bend angle from 101° to 160° and 166° respectively, and increased weld microhardness from 45 to 72 and 59 V.P.N. respectively. Fracture of machined and dressed tensile and bend specimens occurred mainly in the weld (associated with weld defects), but also in the parent metal close to the fusion boundary. Mean tensile strength was 22.4 kg/mm<sup>2</sup>, which was comparable with that of the parent metal. There are 14 figures, 4 tables

Card 2/3

Joint structures and properties ...

S/563/61/000/216/003/007  
D215/D304

and 2 Soviet-bloc references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad  
Polytechnic Institute)

Card 3/3

X

AKSEL'ROD, F.A., inzh.; ZAYTSEV, M.P., kand. tekhn. nauk; ZLOBIN, G.I., inzh.; KOCHERGIN, K.A., kand. tekhn. nauk; NEKRASOV, B.M., inzh.; SLIOZBERG, S.K., nauchnyy red.; DONSKOY, A.V., nauchnyy red.; DEMYANTSEVICH, V.P., nauchnyy red.; SARAFANOV, S.G., nauchnyy red.; BONDAROVSKAYA, G.V., red.; DORODNOVA, L.A., tekhn. red.; PERSON, M.N., tekhn. red.

[Resistance welding] Kontaktnaya svarka. [By] F.A.Aksel'rod i dr. Moskva, Proftekhizdat, 1962. 463 p. (MIRA 15:12)  
(Electric welding)

DEMYANTSEVICH, V.P. Primal uchastiye PETROV, G.L., doktor tekhn. nauk; DUBOVA, T.N., kand. tekhn. nauk, retsenzent; SHCHIPKOV, M.D., kand. tekhn. nauk, red.; DENINA, I.A., red. izd-v; SPERANSKAYA, O.V., tekhn. red.

[Metallurgical and technological principles of arc welding] Metallurgicheskie i tekhnologicheskie osnovy dugovoi svarki. Moskva, Mashgiz, 1962. 295 p. (MIRA 16:3)  
(Electric welding)

PETROV, Georgiy L'vovich; ERUK, B.I., kand. tekhn. nauk, retsenzent;  
TIMOFEYEV, A.N., inzh., retsenzent; DEMYANTSEVICH, V.P., kand.  
tekhn. nauk, nauchnyy red.; OSVENSKAYA, A.A., red.; KRYAKOVA,  
D.M., tekhn. red.

[Inhomogeneity of the metal in welded joints] Neodnorodnost' me-  
talla svarnykh soedinenii. Leningrad, Sudpromgiz, 1963. 205 p.  
(MIRA 16:3)

(Welding--Testing) (Metallography)

ISKOZ, Boris Borisovich; BEL'CHUK, G.A., kand. tekhn. nauk,  
retsensent; DEMYANTSEVICH, V.P., kand. tekhn. nauk,  
nauchn. red.; KAZAROV, Yu.S., red.; KRYAKOVA, D.M.,  
tekhn. red.

[Welding and welding equipment] Svarka i oborudovanie  
svarochnogo proizvodstva. Leningrad, Sudpromgiz, 1963. 287 p.  
(MIRA 17:2)

AM4007946

BOOK EXPLOITATION

S/

Okerblom, Nikolay Oskarovich; Demyantsevich, Vladimir Petrovich;  
Baykova, Iranda Petrovna

Designing the production of welded structures; calculation methods  
(Proyektirovaniye tekhnologii izgotovleniya svarny\*kh konstruktsiy;  
raschetny\*ye metody\*) Leningrad, Sudpromgiz, 1963. 602 p. illus.,  
biblio. 3800 copies printed.

TOPIC TAGS: welded structure, welded structure manufacture, ship  
structure, ship structure welding, low alloy steel welding, low  
carbon steel welding, hardenable steel welding, austenitic steel  
welding, welding stress, welding deformation

PURPOSE AND COVERAGE: This book is intended for engineering personnel  
of designing and manufacturing organizations concerned with the  
planning of technological processes in making welded structures.  
It may also serve as a textbook for students specializing in weld-  
ing at schools of higher education. The book reviews methods of  
engineering calculations related to planning processes for the  
manufacture of welded structures. Methods are suggested for

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selecting methods and conditions for automatic and semiautomatic submerged-arc welding and manual welding and for determining the deformations and stresses induced by welding. The sequence of assembling and welding operations, the allowances for subsequent machining, and problems connected with the reduction of labor consumption and the cost of welded structures as well as with improving their dimensional accuracy and fabricability are discussed.

TABLE OF CONTENTS [Abridged]:

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Ch. I. Importance of the technological process in the fabrication of welded structures -- 5

Ch. II. Calculation methods for determining conditions for welding low-carbon steels -- 21

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